

# Impact of psychosocial work environment factors measured by the COPSOQ on the need for recovery after work in ageing workers

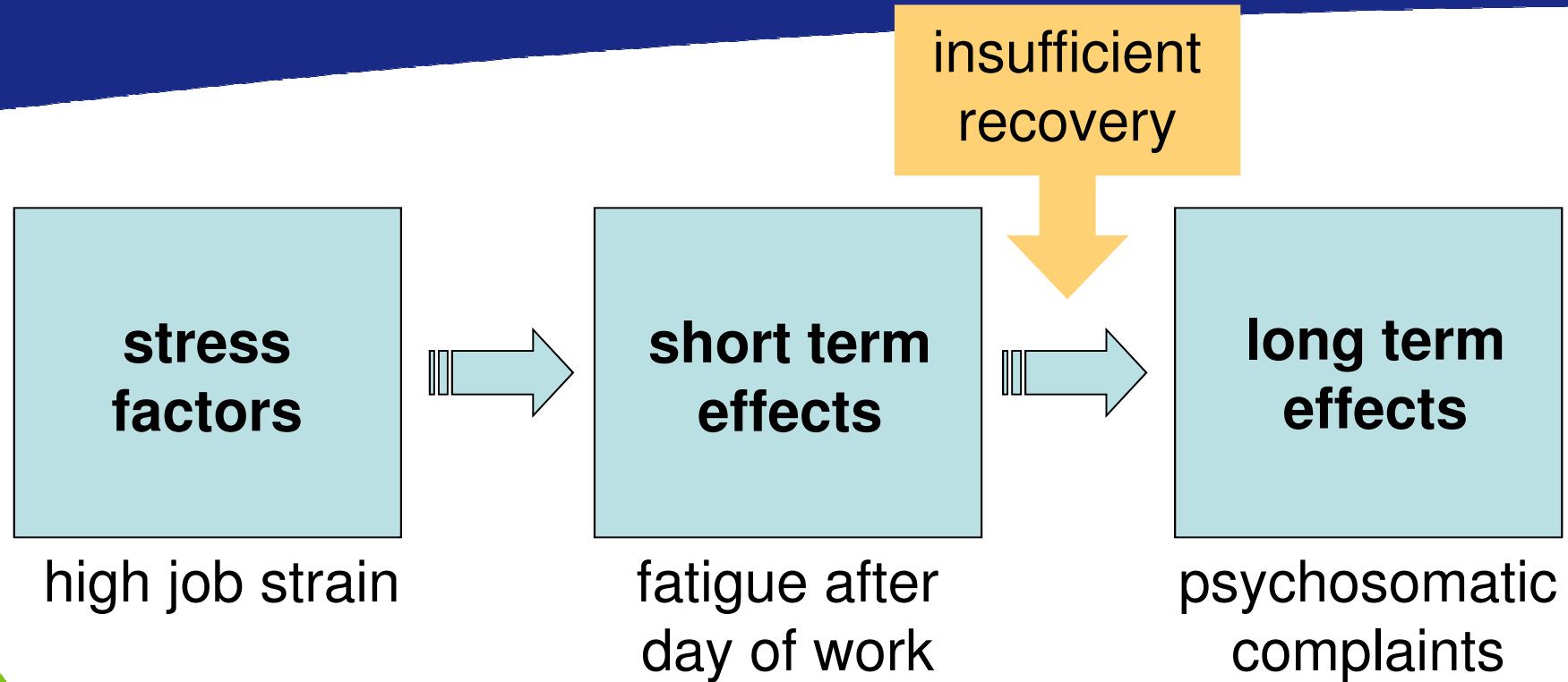
Kiss P<sup>1,2</sup>, De Meester M<sup>1,2</sup>

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# Introduction



***COPSOQ***

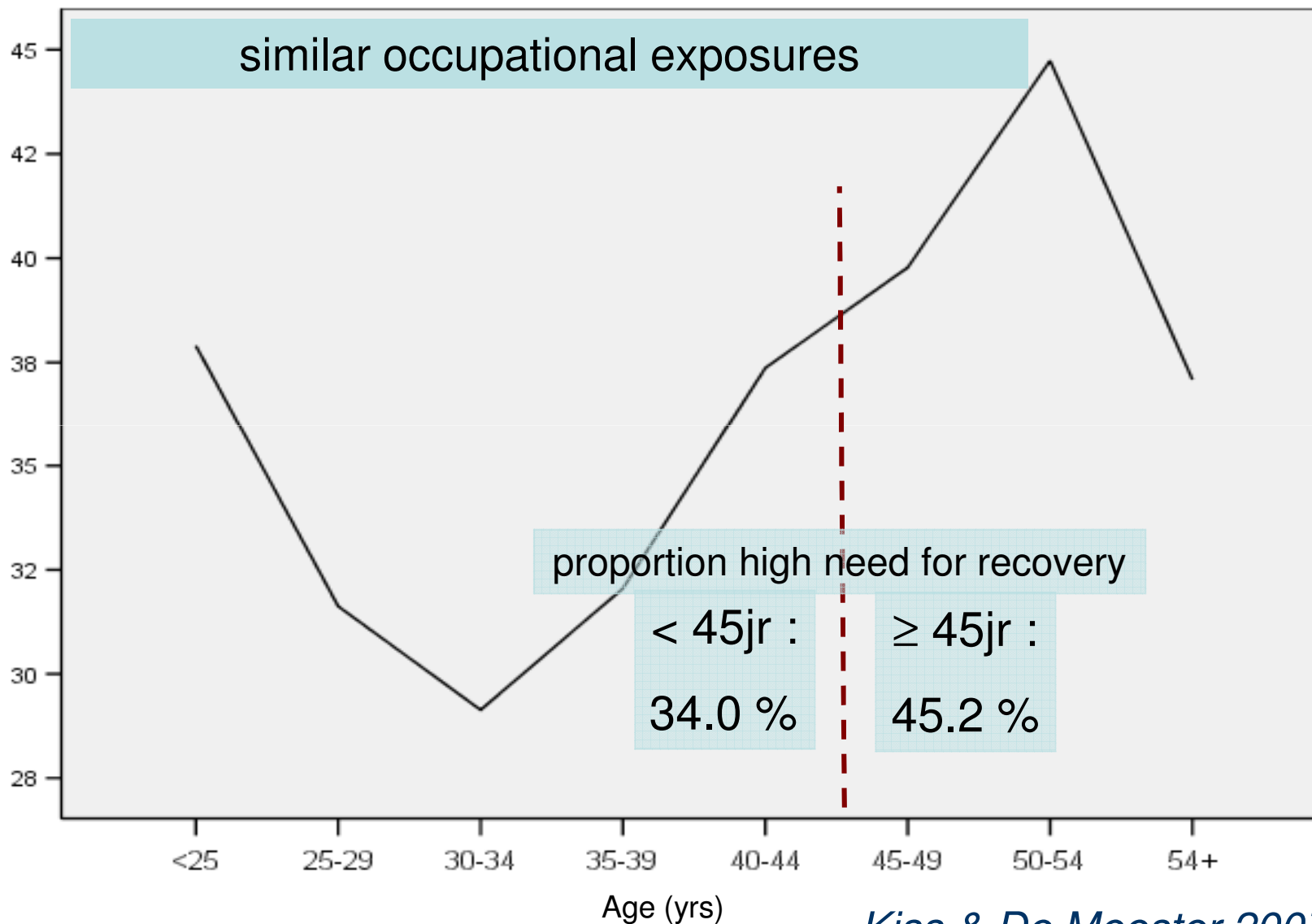
***need for recovery***

*Sluiter JK et al. Ergonomics 1999; 42(4):573-583*

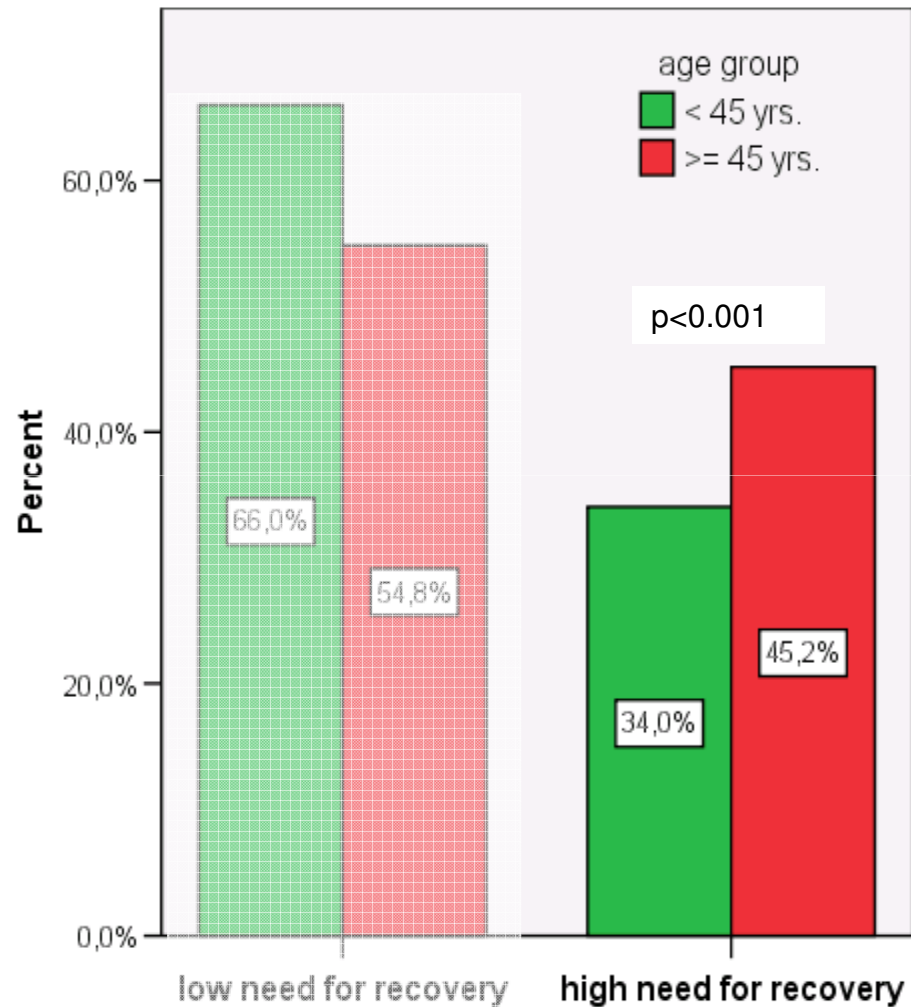
*Ursin & Eriksen. Psychoneuroendocrinology 2004; 29:567-592*

*COPSOQ Workshop Copenhagen, 6-7 September 2007*

# Need for recovery and age



# Introduction



OR (95% CI) for presence of  
high NFR  
(older vs. younger)

univariate 1.60 (1.24-2.06)  
multivariate 1.56 (1.15-2.11)

*Kiss et al. Int Arch Occup Environ Health  
2007;Jun 19(Epub)*

# Aims

- explore the impact of psychosocial work environment factors on the need for recovery using the COPSOQ
- explore differences between older and younger workers

# Methods (1)

- approved by the Ethics Committee Progecov
- cross-sectional questionnaire study
- 998 subjects employed in the public sector
- divided into two age groups (WHO)
  - $\geq 45$  yr
  - $< 45$  yr

# Methods (2)

- outcome variable
  - “The Need for Recovery Scale” questionnaire
  - 11 dichotomous (Y/N) items
  - scale 0 – 100
  - high NFR:  $> 45$

# Methods (3)

- occupational factors
  - psychosocial work strain: COPSOQ
  - physical work strain
  - part time / full time
  - shift work (Y/N)
  - more than one employment



# Methods (4)

- personal factors
  - age
  - gender
  - presence of musculoskeletal disorder
  - degree of stress coping

# Methods (5)

- family and social life factors
  - number of children at home
  - taking care of disabled or elderly people
  - degree of satisfaction on relationships with close relatives
  - degree of satisfaction on relationships with friends
  - degree of satisfaction on social contacts

# Methods (6)

- statistics
  - Mann-Whitney U test
  - multivariate logistic regression analysis
    - OR (95% CI) for presence of a high NFR
    - all subjects
    - separate age groups
    - final multivariate models with smallest  $-2LL$  value and highest correctly predicted percentage

# Results

781 subjects (78.3% response)

- 15 subjects (no NFR)
- 6 subjects (no age)

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760 subjects (76.2% response)

$\geq 45$  yr : n = 317 (41.7%)

$< 45$  yr : n = 443 (58.3%)

# COPSOQ results (1)

<u><i>Demands</i></u>	<u><i>mean</i></u>	<u><i>SD</i></u>
Quantitative demands	43.8	16.9
Emotional demands	45.8	26.2
Demands for hiding emotions	45.6	24.8
Sensorial demands	68.4	19.0
Cognitive demands	59.7	20.2

# COPSOQ results (2)

## Active and developmental work

mean

SD

Influence at work

48.7

15.2

Possibilities for development

62.7

19.5

Degrees of freedom

57.9

20.3

Meaning of work

82.7

17.9

Workplace commitment

63.5

19.4

# COPSOQ results (3)

## Interpersonal relations and leadership

	<u>mean</u>	<u>SD</u>
Social support	65.3	22.1
Social relations 3 items ( <i>2 items</i> )	58.7 (57.8)	24.6 (26.8)
Role clarity	72.3	18.3
Role conflicts	64.5	22.7
Predictability	55.9	24.7
Feedback	43.4	26.0
Sense of community at work	72.9	22.4
Quality of leadership	58.8	25.4

## Job insecurity

29.4 30.6

# Psychosocial work environment factors and age groups

significant differences between older and younger workers (mean scores)

	$\geq 45$ yr	$< 45$ yr	<i>p</i>
emotional dem.	43.6	47.3	0.041
cognitive dem.	57.4	61.3	0.029
possibil. devel.	60.4	64.3	0.040
role conflicts	66.6	62.8	0.010
job insecurity	31.4	27.1	0.012



# Other occupational factors and age groups

- not different
  - physical work strain
  - more than one employment
- *in older workers group*
  - *more part-time work*
  - *less shift work*



**occupational exposures  
+/- more favourable in older workers**

# Personal factors and age groups

- in older workers group
  - more men
  - more musculoskeletal disorders
- no differences with younger workers in degree of coping

# Family and social factors and age groups

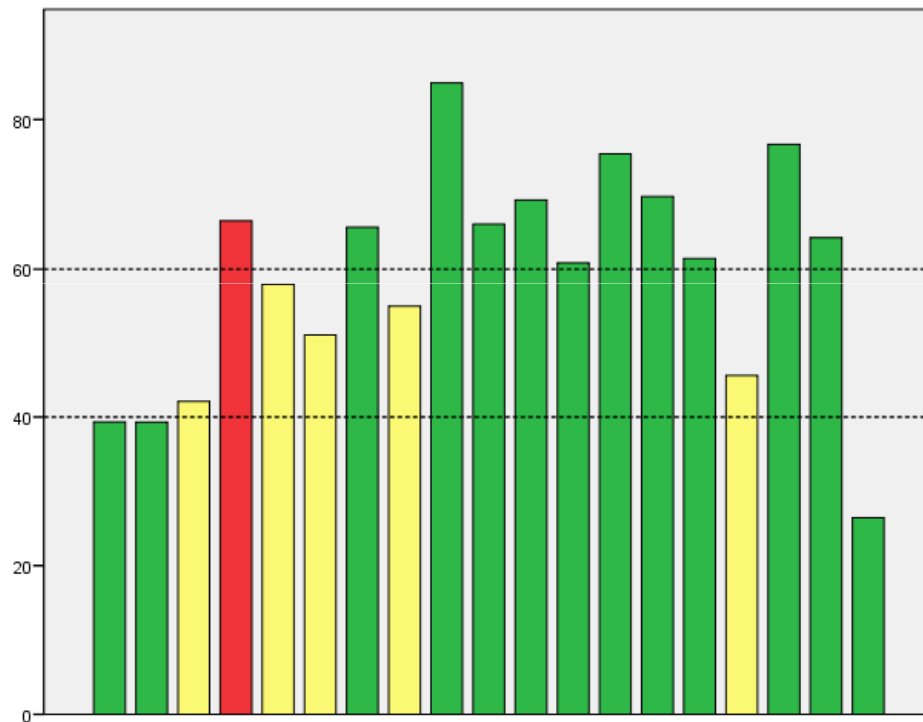
- in older workers group:
  - less children at home
  - more care taking of sick or old people
  - less satisfactory contacts with close relatives
- no differences with younger workers
  - in social contacts
  - contacts with friends

# Explorative multivariate logistic regression model for the presence of a high need for recovery

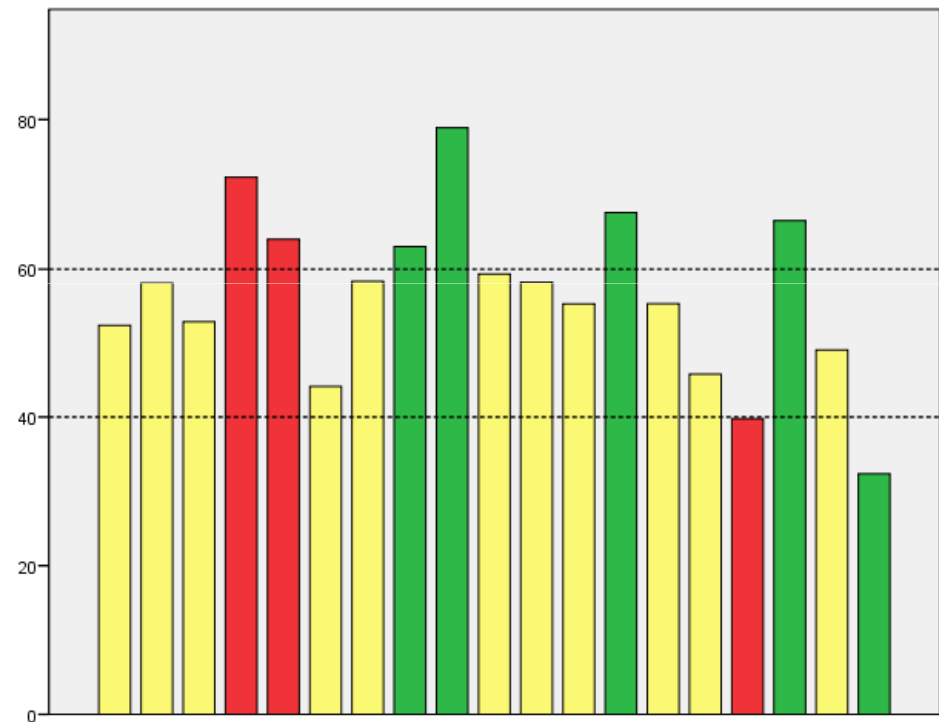
(n=679)	OR (95% CI)
≥ 45 yr (vs. < 45 yr)	1.79 (1.19-2.69)
quantitative demands	1.04 (1.03-1.06)
emotional demands	1.03 (1.02-1.04)
sensorial demands	1.02 (1.00-1.03)
possibilities for development	0.97 (0.96-0.98)
predictability	0.99 (0.98-0.99)
sense of community	0.99 (0.98-1.00)
physical strain	1.18 (1.07-1.29)
coping	0.99 (0.98-1.00)
satisf. social contacts	
not very (vs. very)	3.37 (1.22-9.34)
fairly (vs. very)	1.92 (1.27-2.90)
very	1

# COPSOQ and need for recovery

low need for recovery  
(score  $\leq 45$ )



high need for recovery  
(score  $>45$ )



# Final multivariate logistic regression models for the presence of a high need for recovery

	<45 yrs. (n=399) OR (95% CI)	≥45 yrs. (n=280) OR (95% CI)
quantitative demands	1.04 (1.02-1.06)	1.04 (1.02-1.07)
emotional demands*	1.03 (1.02-1.04)	1.02 (1.01-1.04)
cognitive demands*		1.02 (1.00-1.05)
possibilities for development**	0.98 (0.96-0.99)	0.96 (0.94-0.98)
predictability	0.98 (0.97-1.00)	0.98 (0.97-1.00)
sense of community	0.98 (0.97-1.00)	
physical strain	1.20 (1.05-1.36)	1.23 (1.07-1.41)
gender***	2.42 (1.26-4.63)	
satisf. social contacts		
not very (vs. very)	4.27 (1.04-17.49)	
fairly (vs. very)	2.73 (1.56-4.78)	
very	1	

\* more favourable  
in older workers

\*\* less favourable  
in older workers

\*\*\* more men  
in older workers

# Conclusions

- ageing workers had a higher need for recovery than younger workers
- older workers were more sensitive to emotional and cognitive demands than younger workers
- quantitative demands had the same impact in older and younger workers
- role social factors ?



# Comparison of favourable with unfavourable COPSOQ job profiles and age

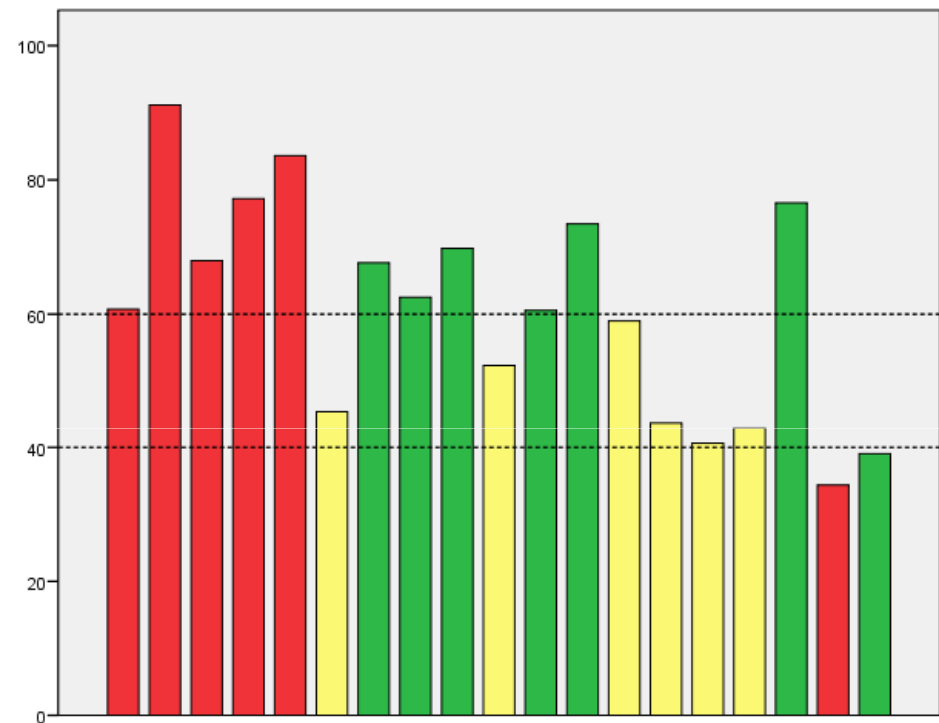
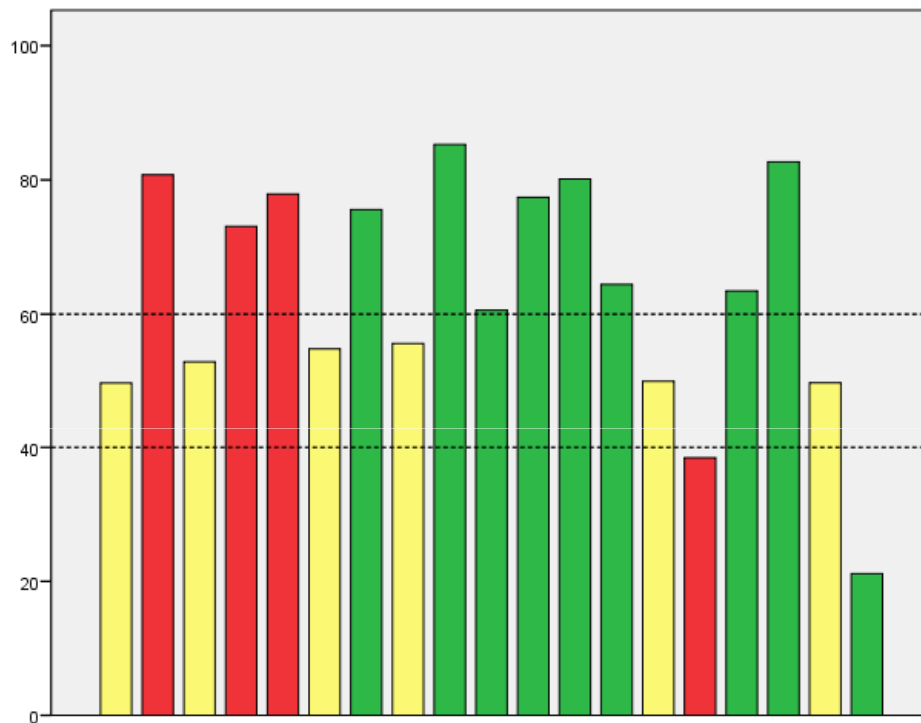




# Reformatory institute

< 45 yr

≥ 45 yr



53.9

need for recovery

score : 0-100

high NFR : score >45

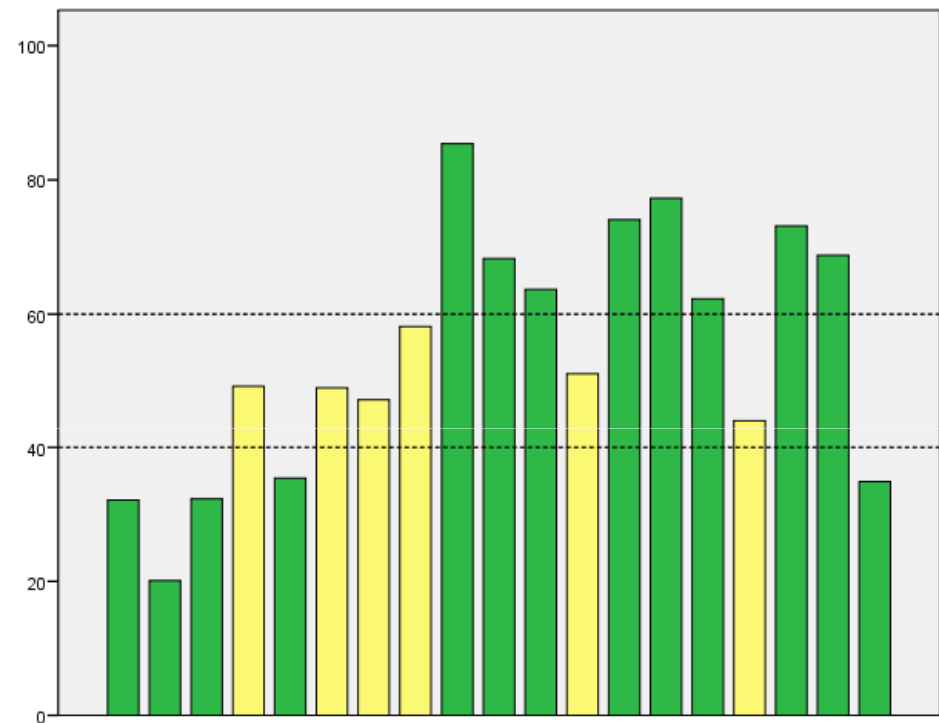
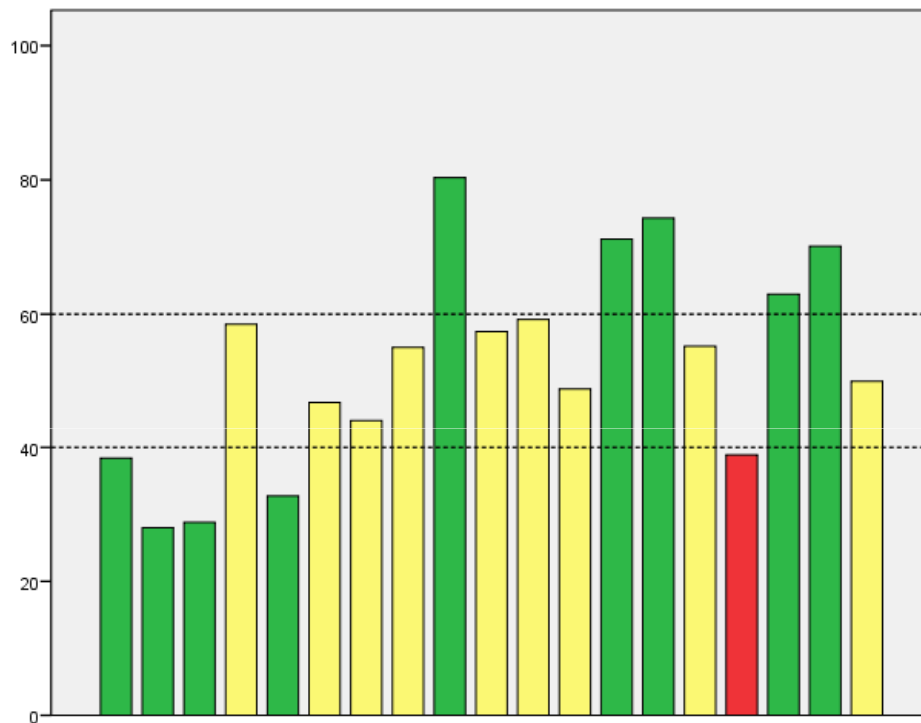
$p < 0.01$

75.0

# Cleaning personnel

< 45 yr

≥ 45 yr



35.3

need for recovery

score : 0-100

high NFR : score >45

N.S

26.0

# Conclusions

- unfavourable COPSQ job profiles
  - NFR increased
  - NFR significantly higher in older workers
- favourable COPSQ job profiles
  - NFR not increased
  - no differences between older and younger workers

# Job profile Little Mermaid

